

Work Order ID 54702

December 16, 2009 3:26:11 PM



Page 1

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 16/12/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 21/12/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

[Signature]

Date:

04-12-14

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599

Rev: AA & Dwg D3391 Rev: H

a.m. 09-12-230

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

a.m. 09-12-230

111

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

14.3675

2) 8.10.6.1/05

Pro 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3391-025 PAR #: _____ Fault Category: Skirt lines NCR: Yes No DQA: 7 Date: 10.03.01
 Resolution: Accepted / re-work Disposition: use as is / re-work QA: N/C Closed: _____ Date: _____

NCR: <u>54702</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>10/01/04</u>	<u>#170</u>	<u>During inspection found that the 14.000" bore is measuring 14.187". R.C. chips behind the chuck</u>	<u>CP</u> <u>10.01.04</u> <u>per</u> <u>QSI 042</u>	<u>Inside D.A. is good & points to length. per DWG.</u> <u>Acceptable, not high stress area</u>	<u>Q. m</u> <u>09.72-23</u>	<u>S</u> <u>10/01/05</u>	<u>CP</u> <u>10.01.04</u> <u>per</u> <u>QSI 042</u>	<u>S</u> <u>10/01/04</u>
		<u>Human error - did not clean. R.C. Lack of Attention.</u>						
<u>10.01.11</u>		<u>MAT'L DISPLACED BY STEADY REST. PIECE MARKED. Minor markings. R.C. process.</u>	<u>CP</u> <u>10.01.11</u> <u>per</u> <u>QSI 042</u>	<u>Buff out marks</u>	<u>10.01.11</u>	<u>S</u> <u>10/01/11</u>	<u>CP</u> <u>10.01.20</u> <u>per</u> <u>QSI 042</u>	<u>S</u> <u>10/01/11</u>

NOTE: Date & initial all entries

Work Order ID 54702

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120



HAAS 1

HAAS CNC VERTICAL MACHINING #1

0.00

0.00

Memo

HAAS CNC vertical machine #1

1-Machine as per Folio FA 599 Rev: 09 & Dwg D3391 Rev: 4
2-Deburr

uf 10-01-11

am 09-12-23 ①

130



QC

QC2- Inspect parts off machine FAI/FAIB

0.00

0.00

Memo

Quality Control

uf 10-01-11

am 09-12-23 ①

140



QC

QC8- Inspect parts - second check

0.00

0.00

Memo

Quality Control

uf 10/01/20

am 09-12-23 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Cust Item ID:

Required Date: 21/12/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

1- 10/1/26

Skidtubes

160

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

Form as per Dwg D3391 Using Bend Prog 3391025

10/1/26

170

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

h2 2.4.250"

8/10/1/27

70

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217
Wearplate Jig

*****Do Not Open To Finished Size*****

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297"and float bag holes to 0.328" as per
Dwg D3391.

7-Deburr

11/10/12/27

3 BE 10/10/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Run Start

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



275106178

QC

Memo

0.00

Quality Control

(X)

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

W 10/2/11

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

BE 10/02/02

(X1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

Instal spacers as per dwg D3391
A/R Magnabond 6398 Batch: M112417
exp. date: 10/17/30
cure time 12hrs as per QSI0015

M 10/2/2

230

0.00



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

⇒ 810/2/19

④

240

0.00



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

Memo

0.00

START TIME: 9:30
OVEN TEMPERATURE: 300°
FINISH TIME: 10:00

M 113170

152 10-02-19 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

250

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

=> m.f 10/02/22



Quality Control

260

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per Dwg D3391
2-Install Aft Cap as per Dwg D3391
A/R Sikaflex-241/-291
Sikaflex expiry date: 10/08

M112345 => m.f 10/02/22



270

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Sikaflex



Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 54702

December 16, 2009 3:26:11 PM



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Stop



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Cust Item ID:

Required Date: 21/12/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

280

Identify as per dwg & Stock Location: _____

0.00



Packaging

Memo

w/o 54702 MF 10/02/22 (18)

0.00

Packaging

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/23 J

MF
10-2-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 1

December 16, 2009 3:26:14 PM

Work Order ID: 54702

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Comments:

Start Date: 16/12/2009

Required Date: 21/12/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D6014-090 Manufactured No

100 Each 15.0000 1.0000



ALUMINUM EXTRUSION



Q.m 09-12-230

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

15

42768

15

D3670-4-200 Manufactured No

230 Each 115.0000 4.0000



SPACER



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

115

48198

30

48269

85

4

11/10/2/2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December 16, 2009 3:26:15 PM

Work Order ID: 54702

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly



Start Date: 16/12/2009

Required Date: 21/12/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2646		Manufactured	No			270	Each	68.0000	1.0000			
												
Aft Cap												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP6

29

52663

29

Main Warehouse

fp7

13

52663

13

Main Warehouse

ST

26

46327

4

48109

22

D3537-1

Manufactured No

270

Each

156.0000

1.0000



Wearpad

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

2

48288

2

Main Warehouse

FP17

154

51678

49

51679

105

IX m-A 10/02/22

10/02/22

IX m-A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Parent Item Name: Aft Tube Assembly


Start Date: 16/12/2009

Required Date: 21/12/2009

Start Qty: 1.00


Required Qty: 1.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3537-7  Wearpad		Manufactured	No			270	Each	18.0000	1.0000			

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	18	
45408 ✓	6	
46346	12	

IX m-l 10/02/22

D3553-1  Gasket		Manufactured	No			270	Each	13.0000	1.0000			
--	--	--------------	----	--	--	-----	------	---------	--------	--	--	--

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	13	
33868 ✓	13	

IX m-l 10/02/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Start Date: 16/12/2009

Required Date: 21/12/2009

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Base Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Receiving Qty To Pick	Qty Issued	Date Issued	Status
D3553-3  Gasket		Manufactured	No			270	Each	62.0000	1.0000			

Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP 60

53480 60

Main Warehouse

ST 2

47206 2

D3672-1 Manufactured No

270 Each 1,786.000 2.0000



Phenolic Washer

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 1286

39275 19

42329 5

47628 262

52505 1000

Main Warehouse

ST117 500

51674 500

1x m-p 10/02/22

2x m-p 10/02/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Comments:

Start Date: 16/12/2009

Required Date: 21/12/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
ALS4-1032-130		Purchased	No			260	Each	2,717.000	14.0000			

Insert

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

2717

110511 ✓

2717

270

Each

6,713.000

12.0000

ALS4-1032-225

Purchased

No

Insert

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

6713

107441

16

110768 ✓

6697

10/02/22

m-k

14X

10/02/22

m-k

12X

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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----------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN3C4A Purchased No



BOLT

270 Each 1,461.000 6.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

112314

112720

112724

112829

112991

113121

113226

113359

113422

1461

13

12

3

1

2

74

842

14

500

6X

M.H 10/02/22

AN3C5A Purchased No



Bolt

270 Each 669.0000 4.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

111424

111707

112314

113121

113149

669

8

69

1

291

300

4X

M.H 10/02/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December 16, 2009 3:26:15 PM

Work Order ID: 54702

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Comments:

Start Date: 16/12/2009

Required Date: 21/12/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN960C10L

Purchased

No

270

Each

416.0000

10.0000



washer

NA51149C0332R

Warehouse

Loc Qty

Loc Code

Location

M113288

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

316

112116

156

112612

160

(10x) m-1 10/02/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 354702
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: H	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.1675	/			see ncr Per Dwg of Page #1
3.500	+/-0.010	3.497	/			
88.93	+/-0.030	88.935	/			
44.995	+/-0.030	45.000	/			
Ø3.200	+/-0.010	3.200	/			
88.93	+/-0.030	88.935	/			
Ø3.750	+/-0.010	3.750	/			
30° x 160" chamfer	+/-0.010	30° x 160"	/			

Measured by: G.M.

Date: 09-12-23

Audited by: E

Date: 10/01/25

HAAS Section						
1.526	+0.000/-0.030	1.517				
7.500	+/-0.010	7.500				
27.750	+/-0.010	27.750				
31.750	+/-0.010	31.750				
35.250	+/-0.010	35.250				
3.300	+/-0.010	3.300				
0.200	+/-0.010	.200				
3.520	+/-0.010	3.520				
0.687	+0.010/-0.000	.693				
R0.062	+/-0.010	.062				
Ø0.484	+0.005/-0.001	.484				

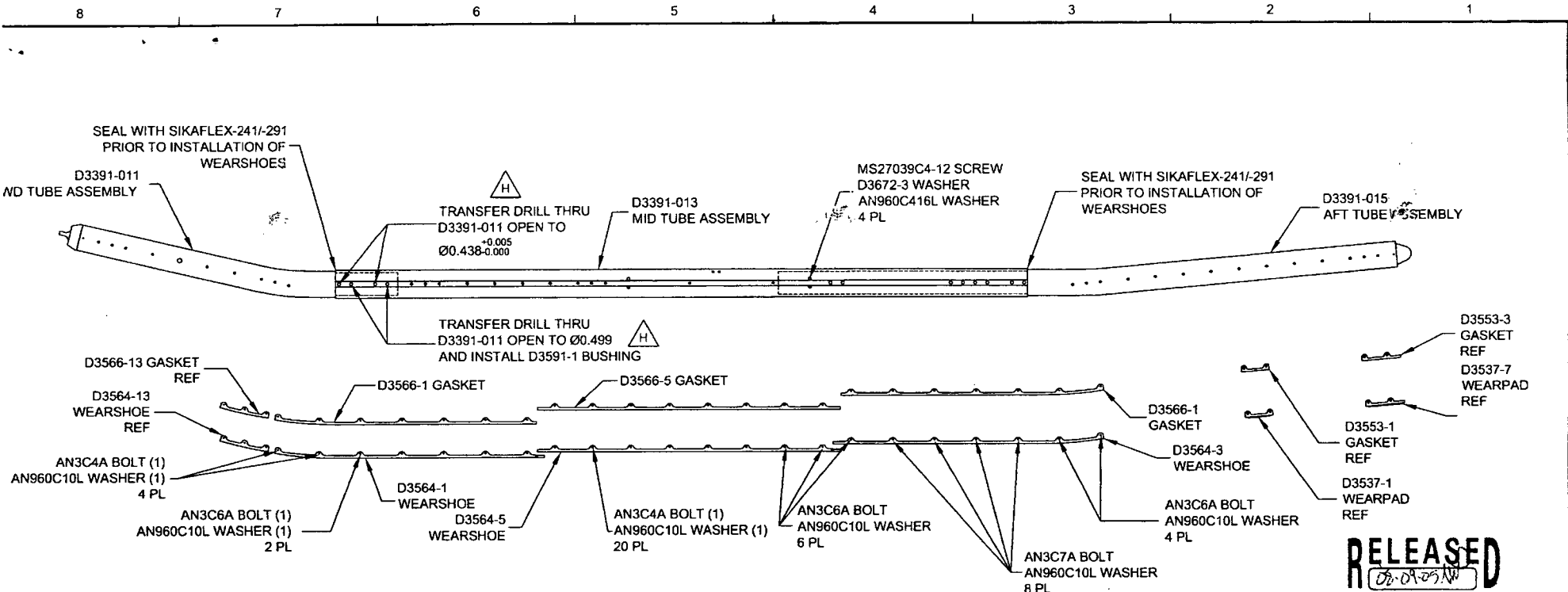
Measured by: [Signature]

Date: 10-01-11

Audited by: [Signature]

Date: 10/01/20

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	[Signature]



D3391-041 ASSEMBLY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 34702
34702

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
40	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND CONTAINS NO TECHNICAL INFORMATION THAT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

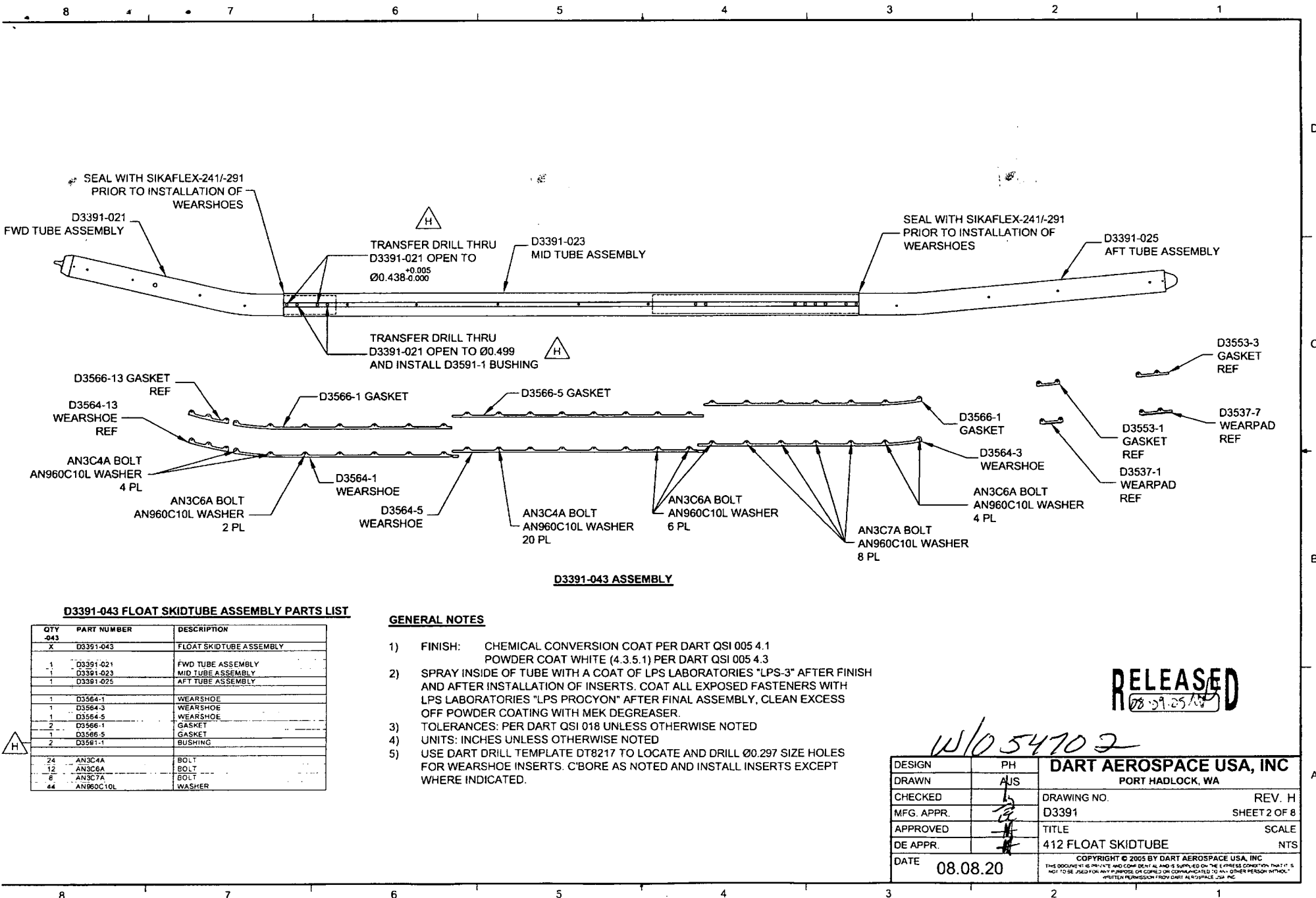
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

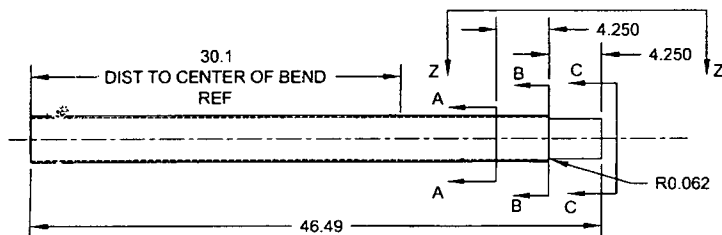
QTY	PART NUMBER	DESCRIPTION
X	D3391-043	Float Skid Tube Assembly
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3566-13	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
6	AN3C7A	BOLT
44	AN960C10L	WASHER

GENERAL NOTES

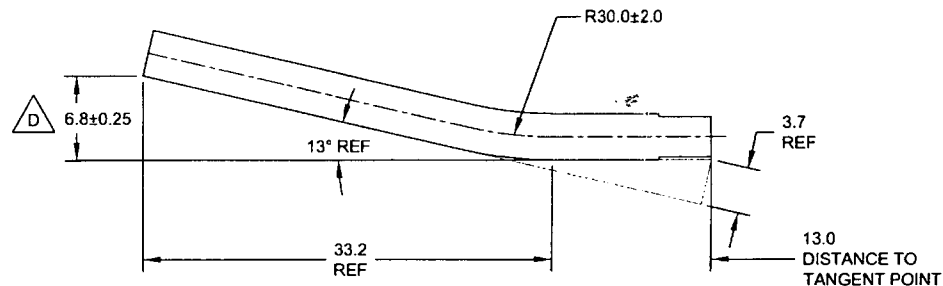
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

W1054702

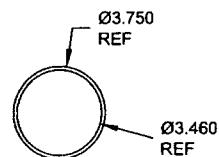
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
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MFG. APPR.		D3391	SHEET 2 OF 8
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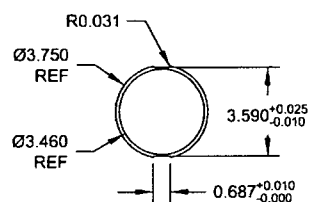
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



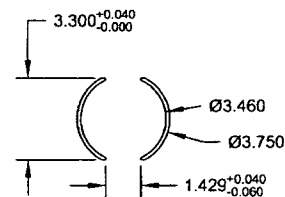
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



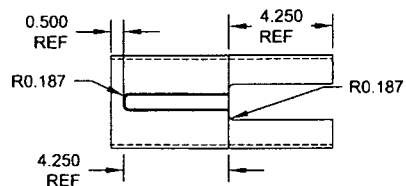
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X

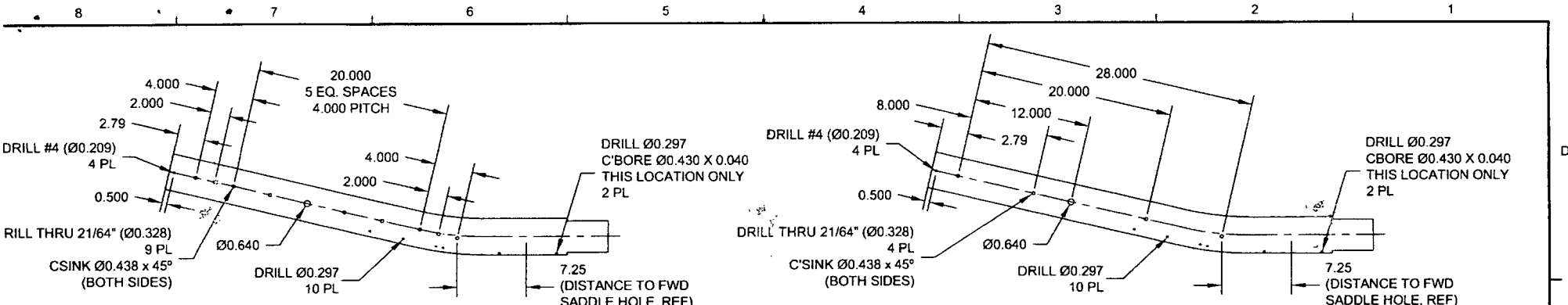


VIEW Z-Z
SCALE 2X

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01-05-11

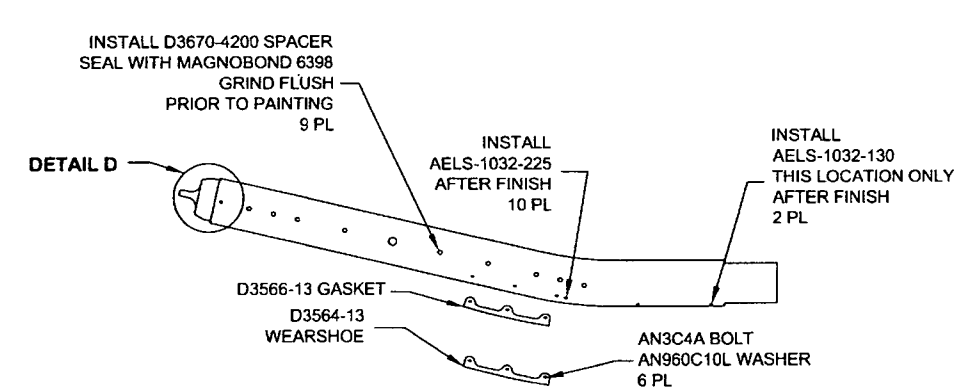
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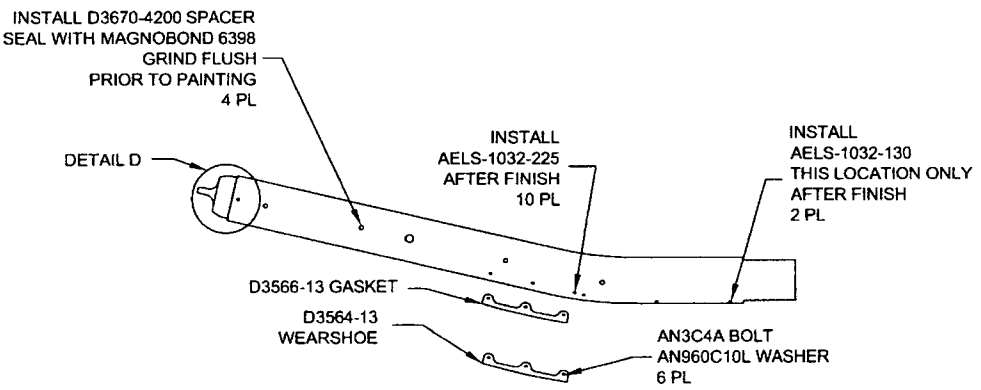


D3391-011 DRILLING DETAIL

D3391-021 DRILLING DETAIL



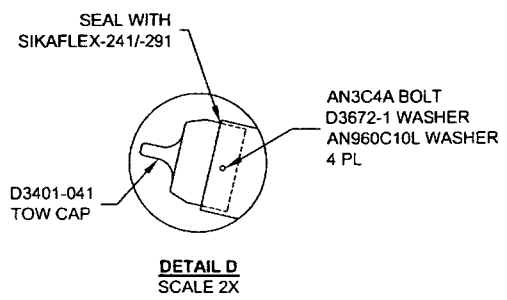
D3391-011 ASSEMBLY DETAIL



D3391-021 ASSEMBLY DETAIL

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

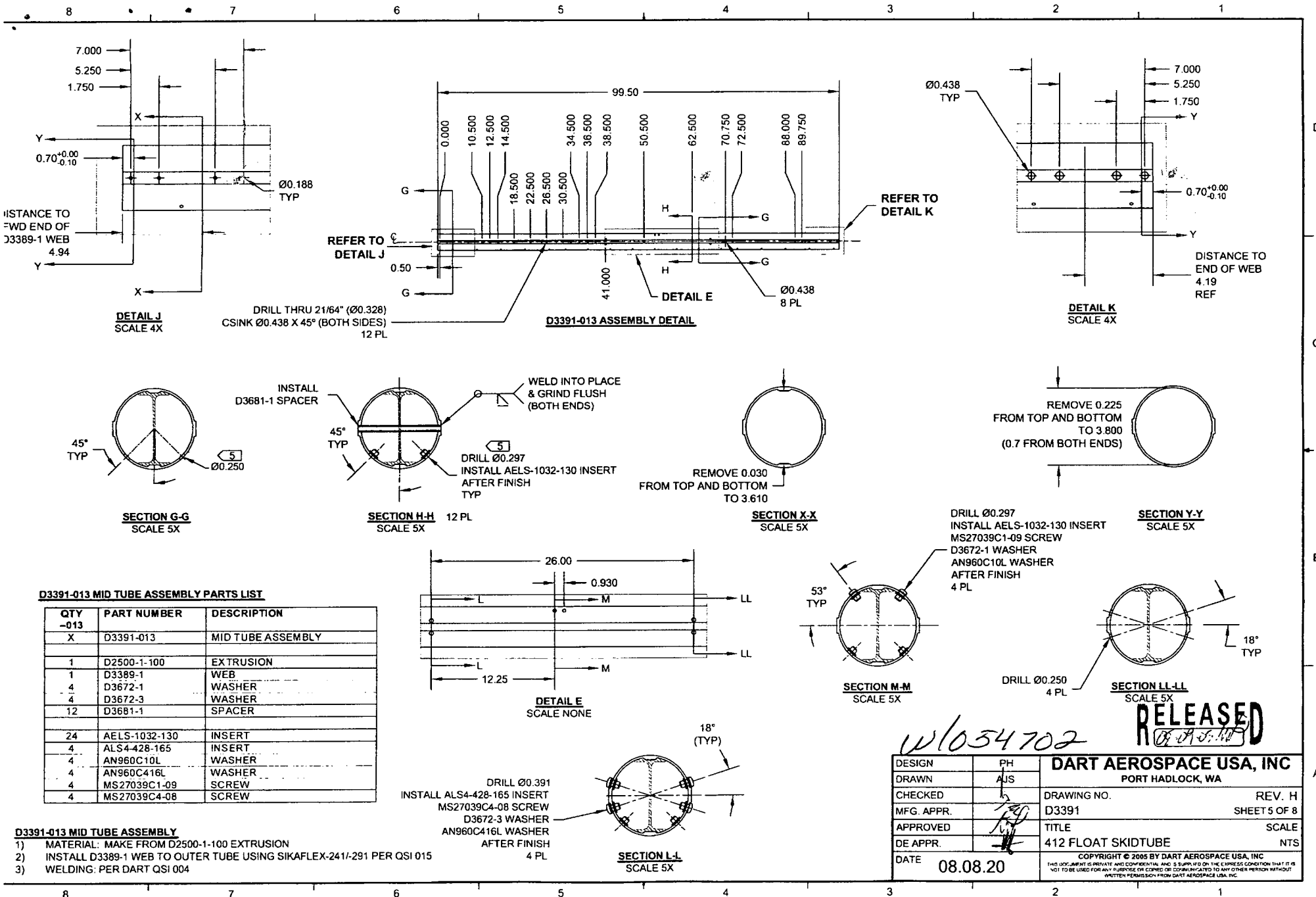
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
2	2	AELS-1032-130	INSERT
10	10	AELS-1032-225	INSERT

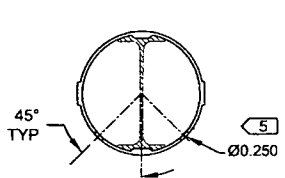
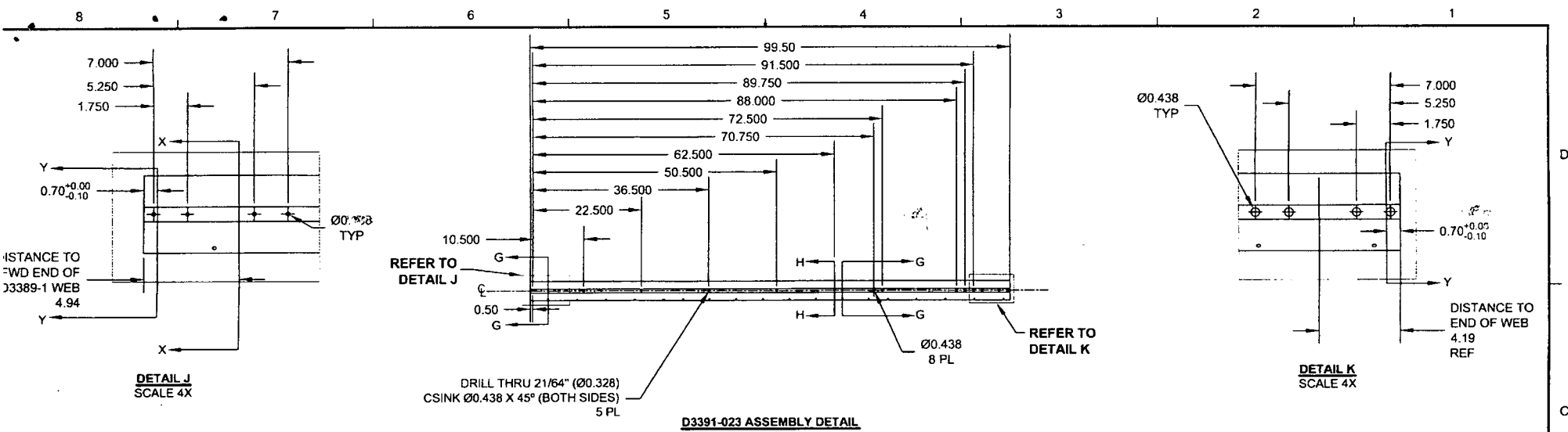


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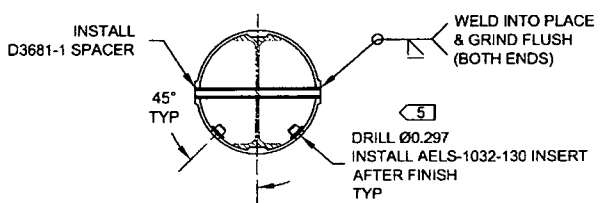
12654702

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CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 4 OF 8
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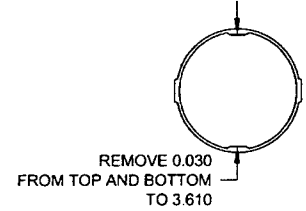




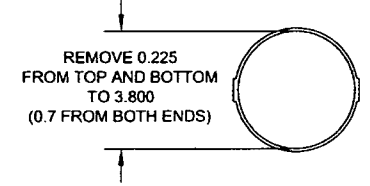
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

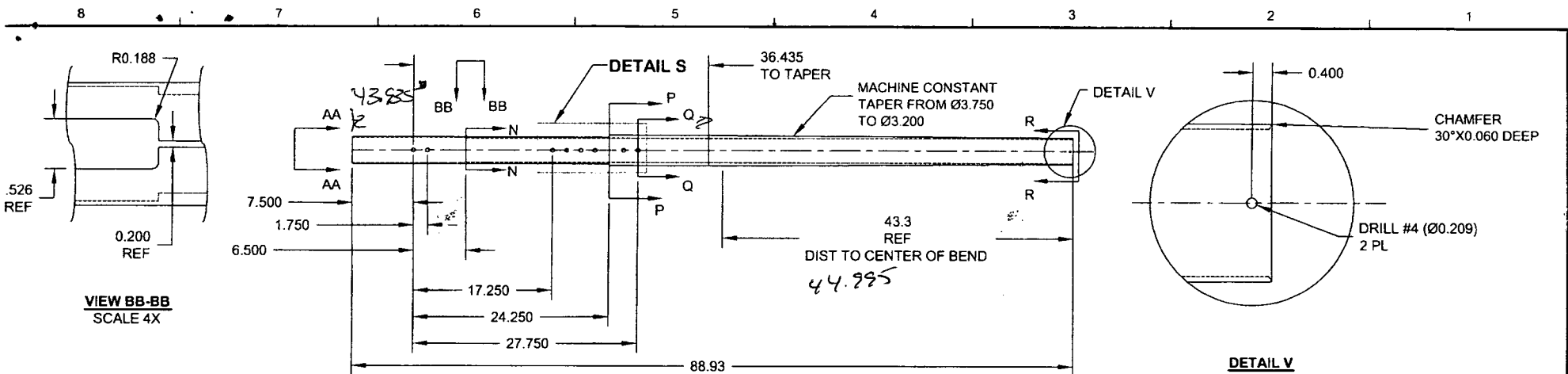
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

RELEASED
08-08-20

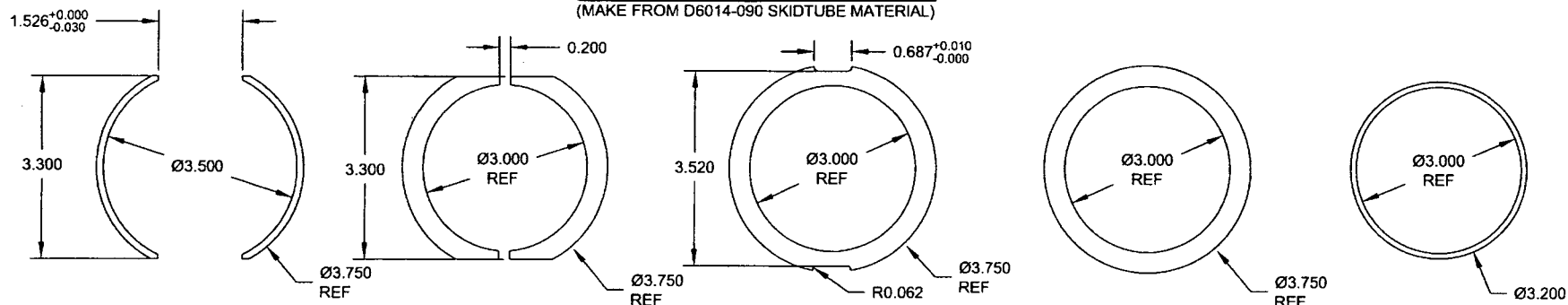
DESIGN	PH	DART AEROSPACE USA, INC	
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MFG. APPR.		D3391	SHEET 6 OF 8
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VIEW BB-BB
SCALE 4X

DETAIL V
SCALE 6X

D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



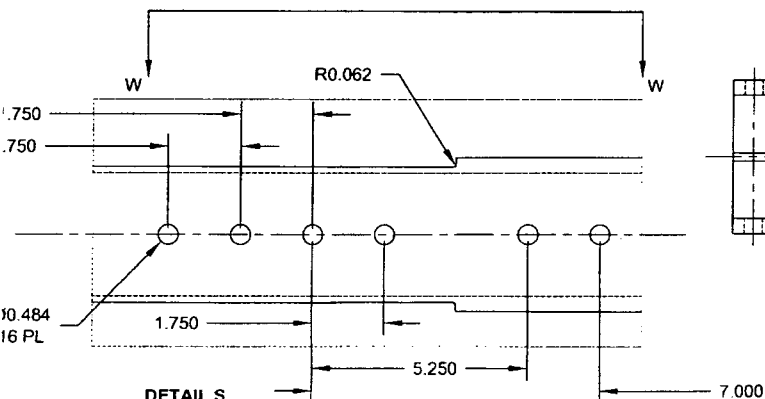
SECTION AA-AA
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SECTION N-N
SCALE 6X

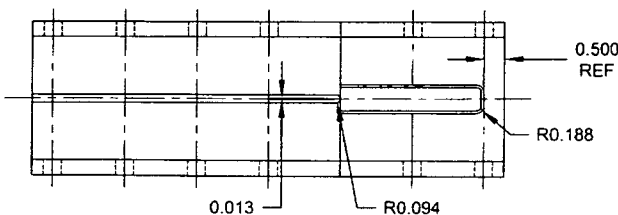
SECTION P-P
SCALE 6X

SECTION Q-Q
SCALE 6X

SECTION R-R
SCALE 6X



DETAIL S
SCALE 4X

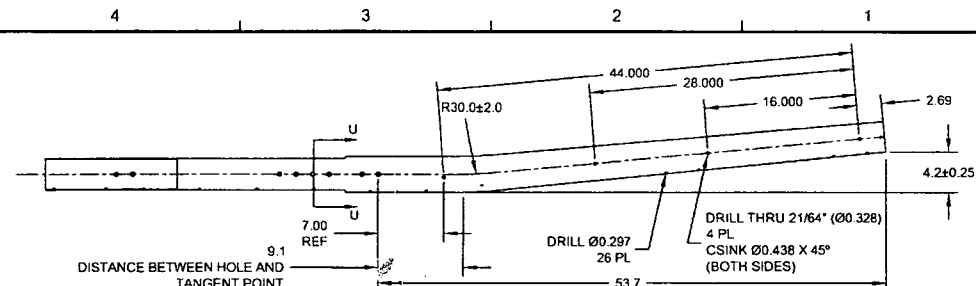


VIEW W-W
SCALE 4X

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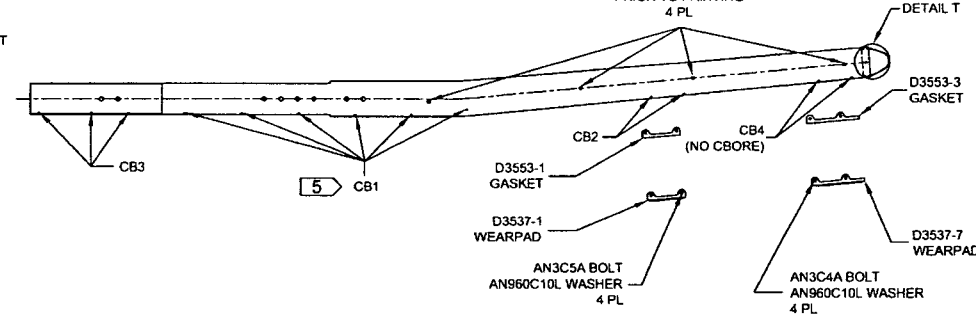
w/o 54702

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CHECKED	JS	DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 7 OF 8
APPROVED		TITLE	SCALE
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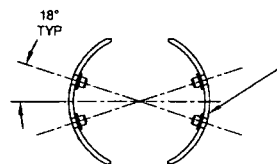
D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL

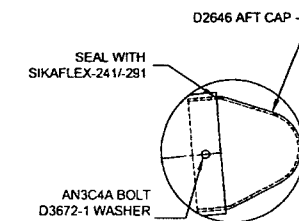


D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		AL S4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER



SECTION CC-CC
SCALE 3X



DETAIL T
SCALE 4X

RELEASE
08-09-05 1/1

HOLE MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. H
MFG. APPR.	<i>[Signature]</i>	D3391	SHEET 8 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	412 FLOAT SKIDTUBE	NT
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